APPENDIX B
Restoration Project Implementation and Monitoring Work Plan

NATURAL RESOURCE RESTORATION PROJECT IMPLEMENTATION AND MONITORING WORK PLAN

for the

JULY 4, 2002
ENBRIDGE ENERGY, LIMITED PARTNERSHIP
OIL SPILL NEAR COHASSET, MN

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INTRODUCTION

PURPOSE

This Natural Resource Restoration Project Implementation And Monitoring Work Plan (Work Plan) governs implementation of the restoration projects selected by the natural resource Trustees (U. S. Department of the Interior acting through its representatives, the U. S. Fish and Wildlife Service and the Bureau of Indian Affairs; the Leech Lake Band of Ojibwe; the Minnesota Department of Natural Resources, and the Minnesota Pollution Control Agency) to address adverse impacts to natural resources and their services as a result of the discharge of oil near Cohasset, MN as required under Natural Resource Damage Assessment regulations of the Oil Pollution Act. This Work Plan contains design information, construction specifications, performance criteria, monitoring requirements, adaptive management, and oversight provisions for the restoration projects.

BACKGROUND

On July 4, 2002, a 34-inch subsurface pipeline owned by Enbridge Energy Limited Partnership and operated by Enbridge (U. S.) (collectively, "Enbridge") located in Itasca County, Minnesota near the town of Cohasset, ruptured from a longitudinal seam failure ("Incident"). The resultant spill released approximately 6,000 barrels (~ 250,000 gal.) of crude oil into the surrounding area, characterized primarily as a forested/scrub-shrub wetland with a peat base ("peat wetland complex"), within the watershed of Blackwater Creek, a tributary to the Mississippi River.

Initial response actions included a 24-hour *in-situ* controlled burn in coordination with Federal, state, and local authorities to remove the free oil, and to prevent impacts to Blackwater Creek and the Mississippi River. Vegetation within and adjacent to the oiled area was burned. Additional response activities included creation of a low perimeter berm to contain residual free oil and burn residue within the already affected area. Oiled peat and other debris were excavated from the affected area to an average depth of 3 feet. Excavated material was hauled off-site for disposal at a landfill facility. The oil spill and subsequent response activities are estimated to have affected a surface area of approximately 11 acres.

Based on information and data collected immediately following the spill, the Trustees initiated a natural resource damage assessment (NRDA) pursuant to Section 1006 of OPA, 33 U.S.C. § 2708, to determine the need for, type, and extent of restoration based on determination of the nature and extent of injuries to natural resources and services. Enbridge, the Responsible Party (RP), has actively participated in all phases of the NRDA conducted to date.

PREFERRED ALTERNATIVE

As part of the NRDA, the Trustees developed a draft Restoration Plan and Environmental Assessment ("Restoration Plan"). Through the draft Restoration Plan, the Trustees considered a reasonable range of restoration alternatives before selecting Alternative C – Off Site Restoration (see Final Restoration Plan and Environmental Assessment For The July 4, 2002 Enbridge Energy, Limited Partnership Oil Spill Near Cohasset, Minnesota) as the preferred alternative. Within this alternative, two projects were selected to address adverse impacts to natural resources that resulted from the discharge of oil at the spill site.

Project 1: Chippewa National Forest (CNF) Site 3 West was selected to address the loss of ecological resources and services at the spill site. CNF Site 3 West includes the restoration of

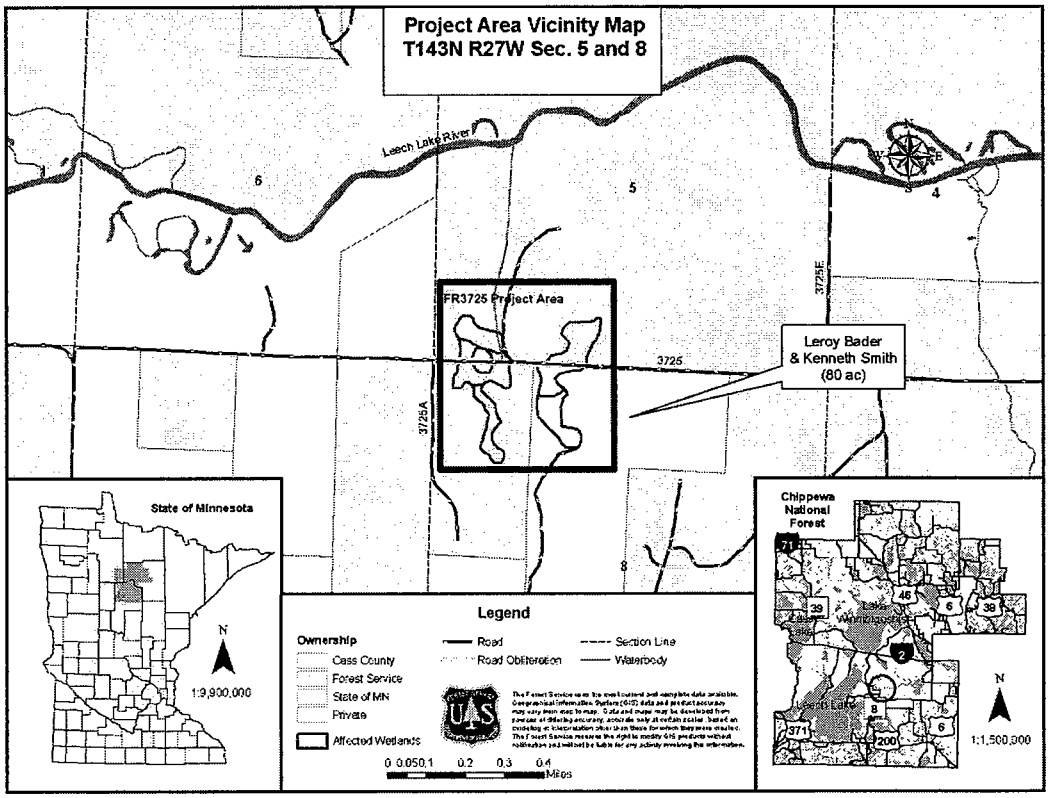
PROJECT 1: CNF SITE 3 WEST WETLAND RESTORATION

PROJECT OVERVIEW

The goal of this NRDA restoration project is to implement a habitat-based project that, through time, is expected to provide ecological services of the same type and quality as those that were lost. It is anticipated that the CNF Site 3 West Wetland Restoration will replace lost natural resources and services by restoring and maintaining the structure and function of a former forested/scrub-shrub wetland complex that has been converted to shallow marsh habitat as a result of anthropogenic modification of site hydrology.

The CNF Site 3 West Wetland Restoration includes the restoration of approximately 28 acres of forested and scrub shrub wetlands within the Chippewa National Forest in Cass County, MN. This project will restore and maintain hydrology by removing a portion of Forest Road (FR) 3725 (Federal Dam - 7.5 Minute Quadrangle Map; T143NR27W; Sections 5 and 8) (Figure 1) in the Leech Lake River floodplain and reestablishing appropriate forested and scrub-shrub wetland vegetation through natural regeneration and supplemental plantings. Land ownership around the project includes U.S. Forest Service, Cass County, and private (Gerald A. Bader & Kenneth Smith).

Figure 1. CNF Site 3 West Wetland Restoration project area map.



HISTORICAL AND EXISTING SITE CONDITIONS

The landscape surrounding the restoration project area consists of a complex of wetlands. Prior to logging and settlement, the project area was most likely dominated by coniferous and deciduous

approximately 28 acres of forested and scrub shrub wetlands at a site located within the CNF. The intent for this site is to restore hydrology by removing a portion of Forest Road 3725 in the Leech Lake River floodplain and reestablishing appropriate forested and scrub-shrub wetland vegetation through natural regeneration and replanting.

Project 2: A diesel engine retrofitting project was selected to address air resource impacts. The project consists of retrofitting older diesel engines with emission controls to reduce air pollutant emissions. Specifically, the project retrofits 10 school buses that would operate for three or more additional years. The most cost-effective retrofit would be an oxidation catalyst, which reduces particulate emissions by 35%-40%.

From September 25, 2005 to October 24, 2005, the Trustees solicited public comment on the draft Restoration Plan through a newspaper notice in the Grand Rapids Herald Review. No comments were received.

The Trustees find that, providing the NRDA restoration projects are completed to the specifications detailed in this document and all conditions of this document have been met, these restoration actions, in combination with the response activities, provide appropriate types, quality, and quantities of restoration actions necessary to fully and successfully address the adverse impacts to natural resources that resulted from the discharge of oil by returning injured natural resources and their services to baseline, as well as compensating the public and environment for interim losses pending recovery.

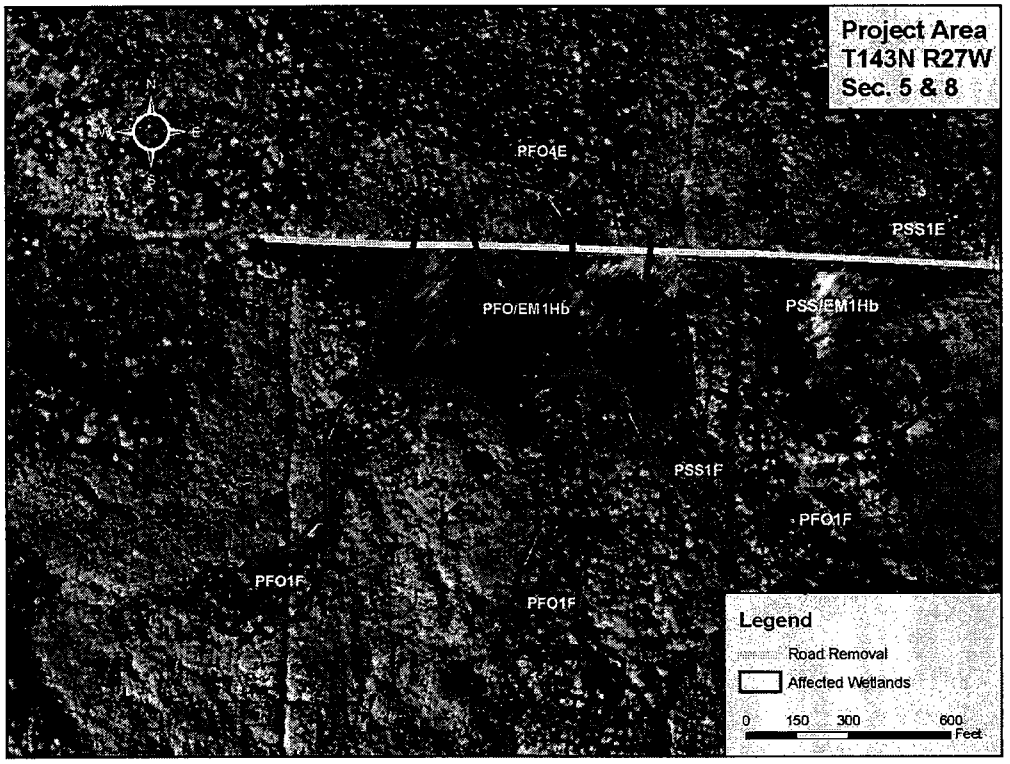
Funding for the implementation of this Work Plan, including reimbursement of Trustee oversight and monitoring costs, shall be provided by Enbridge under the terms of a Consent Decree to which this Work Plan is attached. Funding of the Forest Service activities required under this Work Plan is addressed in the Forest Road Agreement, which is also attached to and incorporated into the Consent Decree.

species tolerant to hydric and wet-mesic soils. Examples include northern white cedar (*Thuja occidentalis*), black spruce (*Picea mariana*), tamarack (*Larix laricina*), balsam fir (*Abies balsamea*), black ash (*Fraxinus nigra*) and willows (Salix spp.). At that time, disturbance consisted primarily of windthrow, with the rare occurrence of wildfire or flooding.

Much of the merchantable timber throughout the project area has been harvested at one period of time or another. In all probability, Forest Road (FR) 3725 was constructed across the poorly drained to very poorly drained landscape to access merchantable spruce, fir, and the few pine and hardwoods present at that time. To create the road, native soils were excavated from borrow ditches on each side of the road. Spoils were placed on a layer of corduroy to help support the use of heavy logging equipment.

The natural flow of surface and groundwater into the Leech Lake River drainage is severely impeded by FR3725, due to soil compaction and lack of sufficient drainage (e.g., impoundment of surface runoff). Figure 2 depicts existing wetland classifications for the project area.

Figure 2. Existing wetland classifications in the project area.



Beaver have further restricted flow by building a nearly ¼-mile dam along the south side of the road creating a 20-acre impoundment. As a result, several upland and lowland shrub and tree species have died or are struggling to survive in 1-5 feet of permanent standing water. Much of the remaining living vegetation consists of stunted black ash, willow, speckled alder, cattail, and sedge (See Figure 3). Within the forested area of the impoundment, mature hardwoods and conifer litter the forest floor, indicating that both were likely present prior to permanent flooding. These trees are also present within the shrub portion, but are significantly less abundant.

Figure 3: Vegetation is dead or highly stressed from permanent standing water. This image is typical of wetland vegetation throughout the impoundment.

North of FR3725, down gradient of the impoundment, impacts to wetland vegetation and hydrology are opposite of those within the impoundment. Encroachment of aspen and balsam fir from nearby upland sites has occurred over time due to lower local water table levels and/or interception of surface and ground water by the road. This has allowed soils to dry and support species that would otherwise be limited by pre-disturbance hydrologic regime and anoxic conditions.

Also within the project area are remnants of a ditch system constructed sometime in the early 1900s. With the removal of the road, surface water will follow these routes and eventually reach Leech Lake River, north of the road. Several beaver dams along segments of the ditch system will effectively slow runoff and help reestablish soil saturation conditions favorable for wetland vegetation. The boundaries of the road removal that intersect the ditch system will be reshaped with the surrounding terrain to accommodate the appropriate drainage and reduce any potential for long-term ponding as ditch headwaters continue to drain.

ANTICIPATED CONDITION FOLLOWING RESTORATION

The restoration project along FR3725 is anticipated to restore and maintain natural hydrology within the Leech Lake River watershed and reestablish native vegetation structure and composition characteristic of mature forested and shrub wetlands within the context of the surrounding landscape ecosystem. The existing road prism will no longer be evident on the landscape and access will be limited to foot travel.

Hydrology in the project area will consist primarily of groundwater flow with soils saturated at or just below the surface throughout much of the year. Flood water is typical during periods of snowmelt or heavy precipitation, but it does not persist beyond the confines of small pools scattered across the hummock and hollow terrain. When surface water is present it will generally flow north as it spreads out across wetlands and empties into Leech Lake River.

Natural regeneration and appropriate plantings will reestablish vegetation structure and composition characteristic of mature forested and scrub shrub wetlands in the region and is expected to produce a suite of ecological services similar to those that were lost as a result of the discharge of oil at the spill site. The edge and transition areas between forested and scrub-shrub wetlands, and between scrub-shrub and herbaceous wetlands provide extremely important shelter, food, and nesting opportunities for wildlife, all in close proximity to each other.

Typically the herbaceous component of the restoration area will be plant communities comprised of sedge meadow and fresh (wet) meadow plant species such as devil's beggartick (*Bidens frondosa*), Canada blue-joint grass (*Calamagrostis canadensis*), jewelweed (*Impatiens capensis*), northern water horehound (*Lycopus uniflorus*), sweet-scented bedstraw (*Galium triflorum*), meadow strawberry (*Fragaria virginiana*), and a variety of sedges (*Carex stricta, Carex lacustris, Carex rostrata*).

Shrub wetlands will consist of a dense cover of plant species dominated by speckled alder (*Alnus incana* ssp. *rugosa*) and multiple species of willow (*Salix* spp.). Forbs and emergent vegetation such as those described above are components of the overall plant community structure. Various sphagnum mosses may be present on hummocks throughout the scrub-shrub communities. Multi-aged lowland conifer and hardwoods are present, but they are much less abundant than other species and are typically found along the edge of the community near forested areas. Detritus is abundant across the shrub wetland, consisting typically of small sizes at several stages of decomposition.

Forested wetlands will consist of a closed canopy of multi-aged lowland conifer and hardwoods, dominated by tamarack and black ash with various proportions of black spruce, northern white cedars, and balsam fir as sub-dominant canopy species. Well defined understory shrub layers and herbaceous groundcover layers composed of woody shrubs, tree saplings/seedlings, and herbaceous grasses and forbs as describes above will be present. Coarse woody debris (e.g., downed logs, partially fallen trees, etc.) and sphagnum hummocks are conspicuous components of forested wetland communities. Detritus is abundant across the forest floor, comprising several sizes at several stages of decomposition.

Upland fringes within the wetland landscape will consist of multiple age classes forming a closed canopy comprised of balsam fir, quaking aspen, and other competing coniferous and deciduous species that have a local seed source. Shrubs and forbs are also components of this overall community structure that provides critical edge habitat for wildlife using both upland and lowland habitats for survival. These areas also provide shade and coarse woody debris to adjacent wetlands.

Successful completion of the project will restore approximately 28 acres of shrub and forested wetlands (See Table 1). Providing all conditions of this Work Plan are met, this restoration project in combination with the response activities conducted at the spill site, provide appropriate types, quality, and quantities of restoration actions necessary to fully and successfully address the adverse impacts to natural resources that resulted from the discharge of oil by returning injured natural

resources and their services to baseline, as well as compensating the public and environment for interim losses pending recovery.

Table 1. Existing and anticipated wetland hydrology and plant community structure within the project area.

Wetland System	Existing Cowardin Class	Class Description	Restored Cowardin Class	Restored Class Description	Restored Acres
Forested	PFO4E	Palustrine, forested wetland, needle leaf evergreen, seasonal saturated	PFO4B	Palustrine, forested wetland, needle leaf evergreen, saturated	4
Forested	PFO1F	Palustrine, forested wetland, broad leaf deciduous, semipermanent	PFO1/4B	Palustrine, forested wetland, broad leaf deciduous/needle leaf evergreen, saturated	9
Forested	PFO/EM1Hb	Palustrine, forested/emergent wetland, persistent, permanent, beaver	PFO1/4B	Palustrine, forested wetland, broad leaf deciduous/needle leaf evergreen, saturated	6
Scrub-shrub	PSS/EM1Hb	Palustrine, scrub-shrub/emergent wetland, persistentent, permanent, beaver	PSS1B	Palustrine, scrub shrub wetland, broad leaf deciduous, saturated	3
Scrub-shrub	PSS1F	Palustrine, scrub shrub wetland, broad leaf deciduous, semipermanent	PSS1B	Palustrine, scrub shrub wetland, broad leaf deciduous, saturated	1
Scrub-shrub	PSS1E	Palustrine, scrub shrub wetland, broad leaf deciduous, seasonal saturated	PSS1B	Palustrine, scrub shrub wetland, broad leaf deciduous, saturated	5
TOTAL					28

PROJECT IMPLEMENTATION METHODS

The design for the project consists of a multi-phased approach that will restore site hydrology by removing a portion of Forest Road 3725, recontouring the site to match the adjacent landscape, reestablishing appropriate herbaceous, scrub-shrub, and forested wetland vegetation through natural regeneration and/or replanting, and follow-up maintenance based on results of implementation and effectiveness monitoring. Except as otherwise noted, Enbridge and/or their contractor will perform all the work detailed in this Work Plan.

Phase One – Road Removal

The first phase of the restoration project will include selective land clearing, breeching the existing road/beaver dam, removing the road prism, filling ditches within the right-of-way, recontouring the remaining terrain, and disposing of woody material. The following describes actions associated with Phase One of the project.

Vegetation Clearing

- All equipment must be free of invasive/noxious plant material upon initial entry to the site and if equipment leaves the site it will be washed and inspected prior to returning.
- Wide-tracked, low pressure equipment must stay within the right-of-way unless it is necessary for timber and brush removal for recontouring or filling of ditches.
- Prior to project implementation, the location of section corner posts and ownership boundaries within the project area will be approximated by USFS personnel. Posts buried within the road right-of-way will be removed prior to earthwork and replaced after it has been completed.
- Prior to clearing vegetation, the contractor will coordinate with a USFS timber sale administrator to determine the amount of merchantable wood on National Forest lands that must be removed.
- Vegetation (brush and small trees) may be cleared along a 60 ft. right-of-way, for a distance of approximately 2,100 feet (See Figure 1 - project location). Tree removal will include only those trees that interfere with the filling of ditches and regrading of the road bed. If feasible, trees with a 6" or greater diameter will not be removed.
- Vegetation removal will be completed using Mulching Mowers. All mulch will be spread on site.
- Outside of the road right-of-way, no vegetation will be removed on private or County Administered ownership.
- Existing root material will remain in place to assist with natural regeneration (i.e. no grubbing or stumping methods will be used).

Initial Road/Beaver Dam Breaching

- Initial breaching of the road/beaver dam will occur slowly to avoid excessive erosion and siltation from the release of flood waters.
- Breaching will focus on sequential removal of small portions of material at low points or previous breeches in the dam.

Wetland Road Removal and Grading

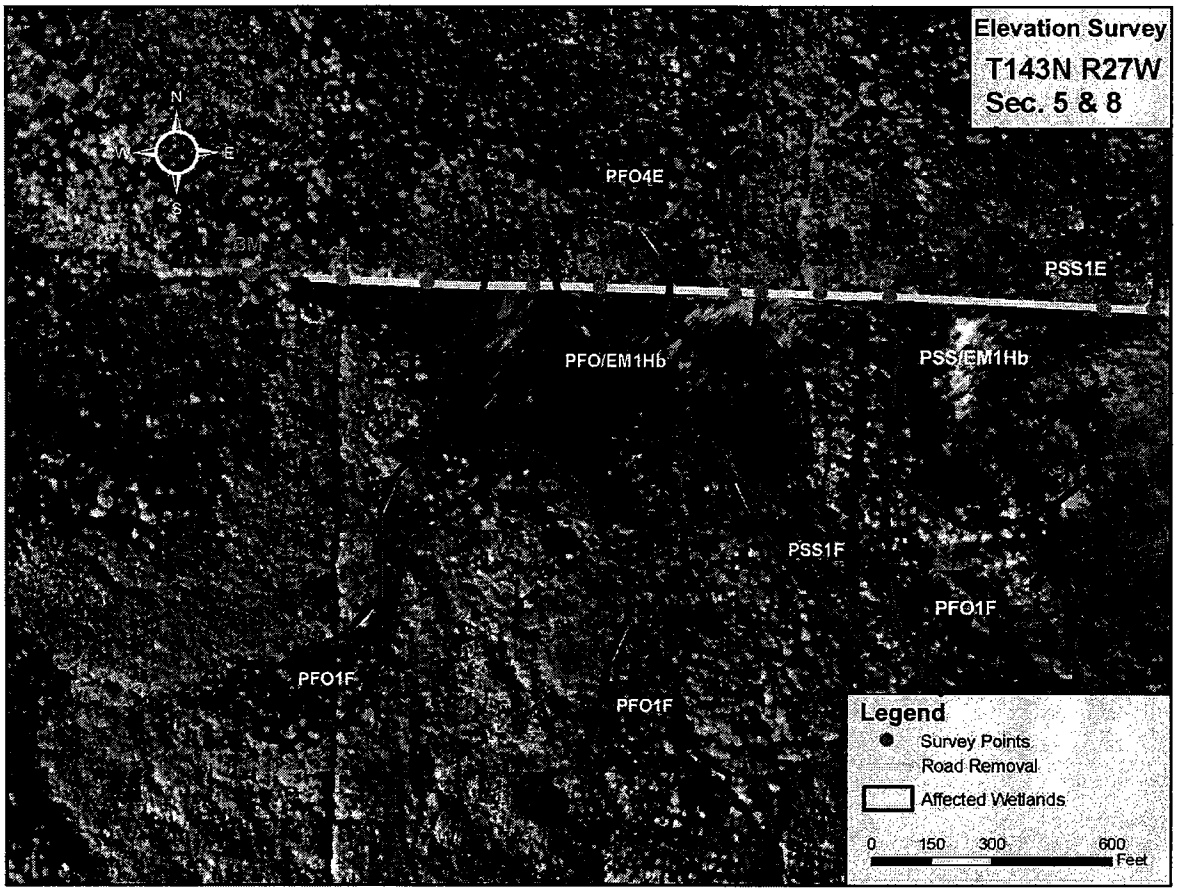
- Material that is currently the road prism will be excavated and the surrounding landscape reshaped within a 60-ft right-of-way (+/- 5'). The road prism will be excavated to a depth matching the surrounding terrain for a distance of approximately 2,100 feet (roughly 7,000-21,000 yd^3 of material). Removal will start at the east end and progress westward.
- On site real-time surveying will be required as the road removal progresses from east to west. Forest Service and Trustee (FWS) representatives must approve recontoured elevations before additional road removal is permitted.
- Usable roadfill material will be redistributed in ditches along the road and in low areas created by beaver activity. Spoil material will not be compacted when filling the ditches to avoid adverse affects for the movement of surface water and groundwater.
- The landscape including road area, and ditches will be recontoured according to surrounding terrain. Table 2 provides current landscape and road bed elevations while Figure 4 provides the associated measurement locations. Recontouring of the area will result in elevations that allow surface water to flow north toward the Leech Lake River without rapid surface water drainage or large bodies of standing water being created (i.e. elevations on the south edge of project area are generally greater than elevations on the north edge). Irregularities are permitted and encouraged as long as the previous conditions are met. Measurements will be taken as the grading is being conducted to ensure target elevations are achieved (See Table 2).

- If roadside ditches cannot accommodate the entire volume of roadfill material, excess may be shaped into small hummocks of slightly higher elevation in the formerly flooded areas.
- Where feasible, organic material and black mineral soil within roadfill will be conserved and redistributed as top dressing over bare soil.
- Excavated timber corduroy will be disposed of by chipping and/or mulching.

Table 2. Landscape elevations.

Station	Soil Description	Road Elevation (ft.)	North Side Elevation (ft.)	South Side Elevation (ft.)
S1	1' FSL/ 0.5' organic (sapric)/ 1.5' FSL	101.1	100.0	100.4
S2	1' FSL/ 0.5' organic (sapric)/ 1.5' FSL	100.3	99.6	99.2
S3	1' FSL/ 0.5' organic (sapric)/ 1.5' FSL	100.4	100.0	100.1
S4	1' FSL/ 0.5' organic (sapric)/ 1.5' FSL	99.9	98.7	100.4
S5	0.5' SiL/ 1' C / 0.5' organic (sapric)/ 1' C	100.9	99.8	99.4
S6	0.5' SiL/ 1' C / 0.5' organic (sapric)/ 1' C	99.8		
S7	1' organic (sapric)/ 0.5' SiL/ 1.5' C	99.5	98.3	
S8	1' SiL/ 2' C w/mixed organic (sapric) & corduroy	100.3	98.8	99.4
S9	1' SiL/ 2' C w/mixed organic (sapric) & corduroy	100.7	99.0	99.1
S10	1' SiL/ 2' C w/mixed organic (sapric) & corduroy	100.3	99.0	
S11	1' SiL/ 2' C w/mixed organic (sapric) & corduroy	101.0	99.9	100.0
Benchmark elevation of 100 ft.				

Figure 4. Elevation transect locations for restoration project area.



Access Restrictions

- After the road has been removed, motorized access will be closed by means of trees, slash, rocks, etc. (allowing access only by foot).
- The closure will be clearly signed and the road posted as closed to all motorized vehicles.

Oversight/Monitoring

- Prior to initiation of Phase One, Enbridge or its contractor shall provide a start date and anticipated construction schedule to the Forest Service and the Lead Administrative Trustee (FWS).
- A Forest Service engineer, hydrologist, or soil scientist will be informed of all construction times and provided the opportunity to be on site at all construction times during Phase One, to ensure that road removal complies with required specifications as designated above. A Trustee representative will likewise be informed of all construction times and provided the opportunity to be on site during construction times to ensure that Phase One tasks have been completed.

Performance Criteria

- The existing road and fill areas must be re-contoured to meet target elevations as indicated in Table 2. These criteria must be achieved to move on to Phase Two.
- Seasonal flooding is expected during periods of snowmelt or heavy precipitation.
- Small pools of water scattered across the hummock and hollow terrain during wet periods are expected.
- When surface water is present it will generally drain north toward Leech Lake River.

Adaptive Management

- Target elevations must be achieved for the project to move on to Phase Two. If proper drainage and elevations are not achieved the landscape features must be reshaped before continuing.

Targeted Timeline

Target date for implementation of the first phase will be between the months of March and May 2008, after snowmelt. If conditions do not support construction during those times then the alternate date will occur before freeze-up between the months of September and November of the same year. The Forest Service will determine if conditions are appropriate to begin construction work.

Phase Two – Initial Planting

Restoration of site hydrology is anticipated to trigger natural regeneration of forested, scrub-shrub, and herbaceous wetland vegetation communities throughout much of the site. However, the need to actively re-vegetate certain heavily disturbed areas and previously flooded areas where active re-vegetation is obviously necessary is also anticipated. The second phase of the restoration project will include transplanting several upland and lowland tree species potentially harvested during road clearing and planting nursery-stock tamarack, black spruce, and balsam fir.

Planting Locations and Methods

- Planting, and/or seeding will occur along the newly graded and contoured road right-of-way within the boundaries of the impoundment on National Forest lands (excluding County Administered Lands and the Bader/Smith ownership to the southeast).
- The contoured area will be scarified to prepare a seed bed for re-vegetation.
- All mulch and native seed must be certified invasive/noxious weed-free. Small grain mulch is preferred and can be distributed by hand or vehicle-mounted blower.
- Planted and/or seeded species will consist of those native to the site and plant community.
- Initial re-vegetation efforts will target areas disturbed by road removal, either within the road prism or adjoining spoil disposal areas and interior areas away from the road where the need for active revegetation is more obvious (e.g., dead tree stands) as indicated in Figure 5.
- Preferred planting locations are indicated in Figure 5, Tables 4 and 5. Contoured and re-graded upland areas will be seeded at a rate of 3 lbs. per acre with annual rye grass prior to the first growing season to help prevent erosion. Upland and lowland tree and shrub species harvested during road clearing will be transplanted in appropriate locations as indicated in Table 4 and Figure 5. Bare root tamarack, black spruce, and balsam fir seedlings from Itasca Greenhouse, Inc. will be planted as indicated in Table 4 and Figure 5.

Figure 5. Re-vegetation locations and species types.

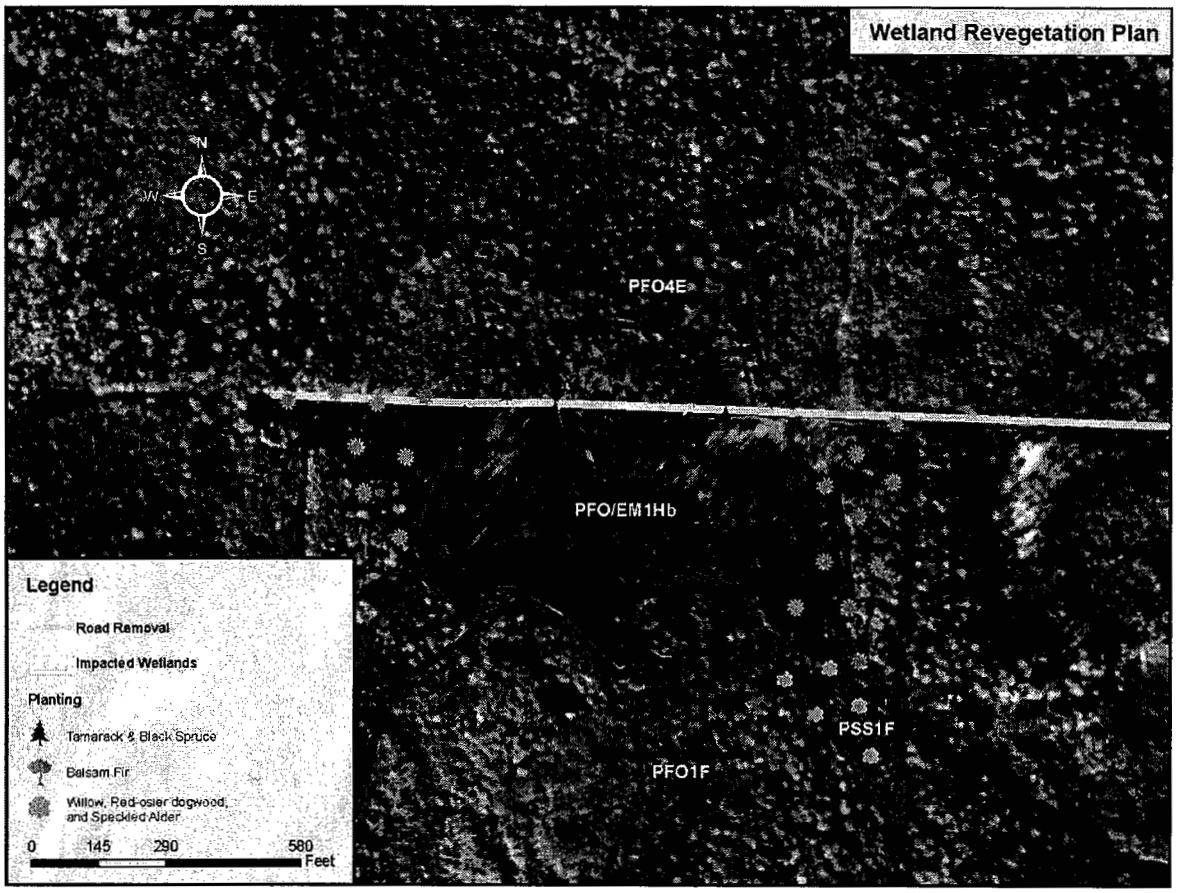


Table 4. Preferred relocation sites of common tree and shrub species harvested on-site during road clearing.

Species	Preferred Relocation Site/s
Elm	Uplands/wetland fringes
Aspen	Uplands/wetland fringes
Balsam fir	Uplands
Black ash	Forested wetlands
Black spruce	Forested wetlands
Bur oak	Uplands
Green ash	Forested wetlands/upland fringes
Highbush cranberry	Uplands
Plum	Uplands
Red Maple	Uplands/wetland fringes
Red-osier dogwood	Shrub wetlands
Speckled Alder	Shrub wetlands
White spruce	Uplands
Willow	Shrub wetlands

Table 5. Planting location and stocking densities for nursery-stock trees and shrub cuttings.

Species	Stocking Density (trees/stems per ac)	Spacing (ft)	Planting Location
*Tamarack and Black Spruce	500	8x10	Forested wetlands
Balsam Fir	500	8x10	Uplands/wetland fringes
Willow, Dogwood, and Alder	1,200	6x6	Shrub wetlands

* Tamarack and black spruce will be separated and planted in individual patches to avoid problems with spruce out competing tamarack.

Oversight/Monitoring

- Prior to beginning Phase Two, Enbridge or its contractor shall notify the Forrest Service so that a Forest Service engineer, hydrologist, or soil scientist can be on site at all times during Phase Two to ensure that revegetation complies with the final design.
- Upon completion of Phase Two, Enbridge or its contractor shall notify a Trustee representative (FWS) so that FWS can conduct a site visit to ensure re-vegetation specifications have been met.

Performance Criteria

- Plant re-vegetation as specified above will define successful completion of Phase Two.

Adaptive Management

- See adaptive management requirements (Table 6).

Targeted Timeline

- Reestablishment of native wetland vegetation by means other than natural regeneration will occur following completion of Phase One and prior to the subsequent growing season.

Phase Three – Revegetation Oversight, Monitoring, and Follow-up Maintenance

Once the road has been removed and retained waters recede, soils will still likely remain saturated for some extended period time. It's unclear whether this will significantly reduce survivability of plantings over the first growing season. Monitoring and follow-up maintenance will be necessary to achieve successful restoration of wetland vegetation and hydrology.

Oversight/Monitoring

- USFS personnel will observe or measure performance criteria annually for the first 4 years and biannually thereafter. Monitoring will be conducted, after the road has been removed and initial planting completed, over a period of 10 years as follows: year 1, 2, 3, 4, 6, 8, 10.
- USFS personnel will submit a monitoring report in accordance with the above monitoring schedule to the Lead Administrative Trustee (FWS). Reports will include performance criteria listed below, photos of the right of way and wetland basins before starting the restoration project and current status.
- Lead Administrative Trustee (FWS) will distribute the monitoring report to co-trustees and Enbridge.

Performance Criteria

The following will be observed or measured annually for the first 4 years and biannually thereafter for a period of 10 years after the road has been removed and initial planting completed:

- Species composition and relative abundance of native wetland vegetation.
- Species composition and relative abundance of invasive/noxious weeds.
- Natural regeneration.
- Survival of planted wetland species.
- Average annual depth to the water table.
- Surface water drainage patterns.
- Annual Precipitation.
- Beaver activity.

Adaptive Management

- Measurable indicators for successful restoration of wetland vegetation and hydrology are listed below.

Table 6. Adaptive management indicators and corrective actions.

Monitoring Year	Indicator	Adaptive Management (In Event Indicator not Achieved)
1	Herbaceous species cover greater than 50% of re-contoured, forested and shrub wetlands, representing 3 or more native species.	Identify common species present on-site or suited to site conditions and spot seed/plant where necessary.
	Greater than 50% of planted tamarack and willow have survived.	Restock areas at densities listed in Table 5. Adjust plant release and animal control efforts as necessary.
	There is less than 5% cover of non-native/invasive species (USACE, 1995).	Implement non-native/invasive species control plan.
	When surface water is present there is evidence of drainage across the right-of-way.	Reshape landscape features to accommodate proper drainage (see table 3).
	No active beaver in project area disrupting drainage patterns and/or disturbing wetland vegetation.	Trap beaver and remove any newly constructed dams.
2	Herbaceous species cover greater than 75% of forested and shrub wetlands, representing 6 or more native species.	Identify common species present on-site or suited to site conditions and spot seed/plant where necessary.
	Greater than 75% of planted tamarack and willow have survived.	Restock areas at densities listed in Table 5. Adjust plant release and animal control efforts as necessary.
	There is less than 5% cover of non-native/invasive species (USACE, 1995).	Implement non-native/invasive species control plan.
	No active beaver in project area disrupting drainage patterns and/or disturbing wetland vegetation.	Trap beaver and remove any newly constructed dams.
5	Herbaceous species cover greater than 90% of forested and shrub wetlands, representing 9 or more native species.	Identify common species present on-site or suited to site conditions and spot seed/plant where necessary.
	A minimum of 500 trees/ac of tamarack are present in forested wetlands.	Restock areas at densities listed in Table 5. Adjust plant release and animal control efforts as necessary.
	A minimum of 1,200 stems/ac of willow are present in shrub wetlands.	Restock areas at densities listed in Table 5. Adjust plant release and animal control efforts as necessary.

Monitoring Year	Indicator	Adaptive Management (In Event Indicator not Achieved)
	Three or more native tree species are present in forested and shrub wetlands, as a result of natural regeneration.	Identify common species present on-site or suited to site conditions and spot seed/plant where necessary.
	There is less than 5% cover of non-native/invasive species (USACE, 1995).	Implement non-native/invasive species control plan.
	No active beaver in project area disrupting drainage patterns and/or disturbing wetland vegetation.	Trap beaver and remove any newly constructed dams.
10	More than 50% of dominant species are OBL, FACW, or FAC meaning there's a 34% or greater likelihood of those species occurring in wetlands (USACE, 1995).	Reevaluate and adjust the entire vegetation plan and start over at Year One.
	Overall plant community structure consists of 30-40% cover of shrub, 60%-70% forested, and 10% or less of emergent wetland species.	Reevaluate and adjust the entire vegetation plan and start over at Year One.
	There is less than 5% cover of non-native/invasive species (USACE, 1995).	Implement non-native/invasive species control plan.
	No active beaver in project area disrupting drainage patterns and/or disturbing wetland vegetation.	Trap beaver and remove any newly constructed dams.

PROJECT TEAM

In order for a project to be successful, the Project Team must have a thorough and complete understanding of individual roles and responsibilities. This section identifies Restoration Project team positions, individuals currently fulfilling positions, and defines the roles and responsibilities associated with each position.

Natural Resource Trustee Representative

FWS, Lead Administrative Trustee

The role of the Natural Resource Trustee Representative is to provide project oversight and coordination. The representative performing this role will be responsible for:

- ensuring that the project is progressing toward completion
- acting as a central point of contact for all parties

- ensuring appropriate communication between the parties involved
- trustee representation during project implementation – road removal and revegetation
- receiving monitoring reports and subsequent distribution of those reports to co-Trustees and Enbridge
- development of project closure report
- maintaining the administrative record for project implementation
- and any other facilitation and coordination required to complete the project

Responsible Party Representative

Enbridge Project Manager

The role of the Enbridge Project Manager is to ensure that the restoration project is implemented as detailed in this plan. The representative performing this role will be responsible for:

- coordination of activities associated with project implementation
- hiring contractors to perform the work detailed in this plan
- ensuring that all necessary permits are obtained prior to starting the project
- ensuring financial support for project implementation, monitoring, and oversight
- ensuring that if necessary, adaptive management procedures described in this plan are followed and financially supported
- and any other facilitation and coordination required as it relates to project implementation

Land Owner Representative

U. S. Forest Service

The role of the Land Owner Representative is to provide project guidance and oversight from the land owner perspective. The representative performing this role will be responsible for:

- securing the site for project implementation
- land owner representation during project implementation – road removal and revegetation
- monitoring the site as detailed in this plan
- preparing monitoring reports and submitting to the Natural Resource Trustee Representative

PROJECT 2: DIESEL ENGINE RETROFIT

A diesel engine retrofitting project was selected to address air resource impacts. The project consists of retrofitting 10 older diesel engine school buses that would remain in operation for at least three additional years with emission controls to reduce air emissions. The most cost-effective retrofit is a tailpipe diesel oxidation catalyst (DOC) that reduces particulate emissions by 15%-30%, combined with a two-stage crankcase filter that reduces crankcase emissions by up to 100%. This combined retrofit controls tailpipe and crankcase emissions provides a total reduction of up to 40%.

PROJECT DESIGN

The project consists of funding and coordinating the retrofitting of 10 school buses that carry tribal students or service tribal members located in north-central Minnesota with a DOC and a two-stage crankcase filter.

Coordination

- Within 30 days of the effective date of the Consent Decree, Enbridge will contact John Gerritt of Donaldson Company, Inc., at 952/887-3898to provide Mr. Gerritt with contact information for Brandy Toft, Air Quality Specialist at 213-335-7429 of the Leech Lake Band of Ojibwe.
- Within 30 days of the effective date of the Consent Decree, Enbridge will contact Brandy Toft or other appropriate person to request that a list of the types, models and years of the school buses to be retrofitted be prepared for John Gerritt.
- Within 30 days of receipt of the bus information, Enbridge shall authorize John Gerritt to order the appropriate DOC and crankcase filter systems.
- Enbridge's contract with Donaldson Company, Inc. shall provide that John Gerritt will make arrangements with Brandy Toft for installation of the retrofit equipment by the Donaldson Company to buses that service Leech Lake Band of Ojibwe tribal members.

Funding

- Enbridge will contract with Donaldson Company, Inc. to pay for the equipment and services that constitute this Project. Enbridge will provide John Gerritt invoicing information and provide a project manager for the project.
- Enbridge will contract with Donaldson Company, Inc. or another qualified company to maintain the DOC and crankcase filter system for three years or the useful life as warranted or guaranteed by the manufacturer, whichever is less, unless maintenance needs are a result of accidents or vandalism.

Targeted Timeline

The diesel engine retrofit project will be conducted in 2008 during a timeframe that will limit interruption of transportation to the School.

Oversight/Monitoring

- Enbridge shall provide notice to the MPCA so that a Trustee representative from the MPCA can initially observe the installation of the DOC and crankcase filter system.
- Enbridge will require Donaldson Company, Inc. to explain installation and maintenance procedures for the DOC and crankcase filter system to the Trustee representative, an Enbridge representative, and the bus maintenance personnel.
- The MPCA Trustee representative will contact the Brandy Toft or the appropriate Leech Lake Band of Ojibwe representative after one, two and three years to verify that the retrofits are being maintained. The Trustee representative will then submit written reports to the Lead Administrative Trustee (FWS) for distribution to co-trustees and Enbridge.

Performance Criteria

Performance criteria will be met by following the manufactures installation instructions and maintenance procedures.

APPENDIX C
Restoration Project Implementation and Monitoring Agreement

RUT - Final - Signatures

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07-PA-11090320-023

RESTORATION PROJECT IMPLEMENTATION AND MONITORING AGREEMENT BETWEEN NATURAL RESOURCE TRUSTEES, ENBRIDGE and the USDA FOREST SERVICE for FOREST ROAD 3725 RESTORATION PROJECT

A. PARTIES

This agreement ("Agreement") is hereby entered into between the United States Department of the Interior ("DOI") acting through the Fish and Wildlife Service (FWS) and the Bureau of Indian Affairs; the State of Minnesota ("Minnesota") on behalf of the Minnesota Pollution Control Agency and the Minnesota Department of Natural Resources; the Leech Lake Band of Ojibwe ("Leech Lake") (collectively referred to as the "Trustees"); Enbridge Energy, Limited Partnership (referred to as "Enbridge") and the U.S. Department of Agriculture on behalf of the Forest Service (the "Forest Service"). The Trustees, Enbridge, and the Forest Service are hereafter collectively referred to as the "Parties."

B. PURPOSE

The Trustees, Enbridge, and the Forest Service have established this Agreement for the purpose of accomplishing mutually beneficial objectives related to planning, implementation, and monitoring of a restoration project conducted on Forest Service owned property, as described herein. This Agreement outlines the roles and responsibilities of the Parties with respect to project planning, design, implementation and monitoring, identifies funding mechanisms/commitments to support Forest Service involvement, and outlines Forest Service commitments to avoid long-term disturbance on the project site. The restoration project involves Forest Service Road ("FR") 3725 under Forest Service jurisdiction.

C. BACKGROUND

Trustees allege that on July 4, 2002, a pipeline owned by Enbridge ruptured near the town of Cohasset, Minnesota, discharging approximately 6,000 barrels (~ 250,000 gal.) of crude oil (the "Incident") into the surrounding area characterized primarily as a forested/scrub-shrub wetland with a peat base ("peat wetland complex"). Evidence indicates that the Incident and response activities caused substantial injuries to wetland vegetation and wildlife habitats on approximately 11 acres. These impacts may be sustained on a long-term basis.

As a result, the Trustees have determined that restoration activities are necessary to resolve natural resource damage claims resulting from the Incident and have identified the restoration of wetlands located along FR 3725 within the Chippewa National Forest (the "Restoration Project") for this purpose. The Chippewa National Forest is located in Cass County, Minnesota and is owned and managed by the Forest Service. Forest Service personnel have acknowledged the value and benefit to the Forest Service associated with restoration of the location and have indicated the desire to have such a restoration project implemented on Chippewa National Forest land.

The Restoration Project will be conducted on the specific portion of the Chippewa National Forest as depicted in Exhibit A, the Restoration Project location map, which is attached hereto and incorporated by reference. Details of the Restoration Project, including but not limited to goals, objectives, techniques, design, and construction specifications will be fully described in the "Restoration Project Implementation and Monitoring Work Plan" ("Work Plan"). The Work Plan will be attached to a Consent Decree between Enbridge and the Trustees which will resolve natural resource damage claims of the Trustees arising from the Incident ("Consent Decree").

By and through this Agreement, the Forest Service authorizes the Trustees and Enbridge to complete the Restoration Project and hereby grants access to the property for the purpose of preparing for, implementing, maintaining, and monitoring the Restoration Project.

D. AGREEMENTS:
The Trustees, Enbridge and the Forest Service hereby acknowledge and agree that the recitals set forth above are true and accurate. Therefore:

THE FOREST SERVICE AGREES TO:
1. Perform management activities in a manner which will not reduce or disrupt the continued functioning of the Restoration Project. This includes managing the Restoration Project to prevent reduction of water quality, wildlife habitat, and aesthetic values, and preserve hydrologic and forested/scrub-shrub wetland functions. If adverse impacts to the Restoration Project are unavoidable, the Forest Service will consult with the Lead Administrative Trustee (FWS) on activities that will minimize those impacts and the appropriate restoration for lost natural resources and services.

2. Restrict motorized vehicle access on the Restoration Project area. Winter access only may be granted to snowmobiles in the Restoration Project area along a trail as designated in the Work Plan. The Forest Service will exercise their responsibilities and authorities as land owners to enforce these trail restrictions.

3. Conduct the implementation and effectiveness monitoring of the Restoration Project for the next 10 years (estimated end date September 30, 2019) following the completion of Phase I and Phase II as described in the Work Plan. For every year there is monitoring, the Forest Service will submit a monitoring report to Enbridge and the Lead Administrative Trustee (FWS) by August 1 of each calendar year. If the monitoring report identifies a disruption or a reduction in the functioning of the Restoration Project as described in item #1 under "The Forest Service Agrees To" section, adaptive management actions will be conducted as described in the Work Plan.

4. Grant the Trustees, Enbridge, their employees, representatives, contractors, or subcontractors access to the Restoration Project location for the purpose of preparing for, implementing, maintaining and monitoring the Restoration Project.

5. Plan, design, and implement the revegetation for the Restoration Project and provide technical assistance with the removal of any merchantable timber on National Forest lands, necessary for project implementation, as described in the Work Plan.

6. Deposit all cash funds received under the terms of this Agreement to a Forest Service Cooperative Work Fund to be used for the purpose for which contributed.

7. Advanced Billing: Bill Enbridge prior to commencement of work for deposits sufficient to cover the estimated costs for the specific payment period. Overhead will be assessed at a rate of 8%.

Billings shall be sent to:

Enbridge Energy Company, Inc.
Attn: Kris Benson
119 North 25th Street East
Superior, WI 54880

ENBRIDGE AGREES TO:

1. Fund technical assistance provided by the Forest Service to implement the project (e.g. revegetation, implementation, monitoring) and for monitoring the success of the Restoration Project over a 10 year period (estimated end date September 30, 2019) following the completion of Phase I and Phase II, as described in the Work Plan. Total amount under this subparagraph shall not exceed $ 37,920.00.

2. Fund and perform the earth-work, revegetation, maintenance, monitoring, oversight, and follow-up work necessary for the successful completion of the Restoration Project, as described in the Work Plan and required by the Consent Decree.

3. Fund Trustee oversight for the implementation, monitoring, and any other facilitation and coordination required to complete the Restoration Project as required by the Consent Decree. This oversight is needed to ensure that the restoration is completed as described in the Work Plan.

THE TRUSTEES AGREE TO:

1. Provide oversight for the development, implementation, monitoring, and any other facilitation and coordination required to ensure that the Restoration Project is completed as described in the Work Plan.

2. Provide assistance to the Forest Service as described in item #1 under "The Forest Service Agrees To" section.

E. IT IS MUTUALLY AGREED AND UNDERSTOOD BY ALL PARTIES THAT:

1. All the Parties shall comply with all applicable Federal statutes relating to non-discrimination and all applicable requirements of all other Federal laws, executive orders, regulations and policies. These include, but are not limited to: (a) Title VI of the Civil Rights Act of 1964 (42 U.S.C. §2000d), which prohibits discrimination on the basis of race, color, handicap, or national origin; (b) Title IX of the Education amendments of 1972, as amended (20 U.S.C. §§1681-1683 and 1685-1686 which prohibits discrimination on the basis of sex.

2. Nothing herein shall supersede the terms and conditions set forth in the Consent Decree.

3. All the Parties shall adhere to the terms and conditions agreed to in the Work Plan.

4. This Agreement may be revised as necessary by mutual consent of all Parties, by the issuance of a written amendment, signed and dated by all Parties, prior to any changes being performed.

5. This Agreement in no way restricts any Party from participating in similar activities with other public or private agencies, organizations and individuals.

6. The Parties will address any communications regarding this Agreement to the Principle Contacts.

PRINCIPLE CONTACTS: Principle contacts for this Agreement are:

Trustees:
Tony Sullins
U. S. Fish and Wildlife Service
4101 East 80th Street
Bloomington, MN 55425
Phone: 612-725-3548 x201
Email: tony_sullins@fws.gov

Enbridge:
Robert Steede
Enbridge Energy Inc.
119 N. 25th Street East
Superior, WI 544880-5247
Phone: 715-394-1575
Email: robert.steede@enbridge.com

U. S. Forest Service:
Carolyn Upton
USDA Forest Service
Chippewa National Forest Service
201 Minnesota Ave., E.
Walker, MN 56484
Phone: 218-547-1044
Email: cupton@fs.fed.us

7. This Agreement is not intended to create any rights enforceable by persons or entities who are not a Party to this Agreement.

8. Nothing in this Agreement shall be construed as obligating the Trustees and the Forest Service to expend any funds in excess of appropriations authorized by law.

9. Each Party agrees that it will be responsible for its own acts and the results thereof and shall not be responsible for the acts of the other Party and the results thereof. Each Party therefore agrees that it will assume all risk and liability for itself, its agents or employees for any injury to persons or its agents or employees under this Agreement. Each Party also agrees to assume all risk and liability for costs, damage, or expense resulting at any time from any failure by itself, its agents or its employees to exercise proper precautions. The United States' liability shall be governed by the Federal Tort Claims Act, 28 U.S.C. §1346. Minnesota's liability shall be governed by the provision of the Minnesota Tort Claims Act, Minn. Stat. § 3.736, and other applicable law. Leech Lake's liability shall be governed by the Leech Lake Judicial Code. Nothing in this document is to be construed as a waiver of sovereign immunity by Leech Lake.

10. Any information furnished under this Agreement is subject to the Freedom of Information Act (5 U.S.C. §552) and the Minnesota Data Practices Act and Tribal Law. The United States, Minnesota and Leech Lake, through any authorized representative shall have access to and the right to examine records held by Enbridge specific to this Agreement. As used in this Agreement, "records" includes books, documents, accounting procedures and practices, and other data, regardless of type and regardless of whether such items are in written form, in the form of computer data, or in any other form. All records specific to the Agreement shall be retained for a period of 3 years.

11. In the event of any issue of controversy under this Agreement, the Parties may pursue Dispute Resolution procedures as set forth in the Consent Decree.

12. Improvements placed on National Forest System land at the direction of any of the Parties, shall thereupon become property of the United States, and shall be subject to the same regulations and administration of the Forest Service as other National Forest improvements of a similar nature.

13. Enbridge has the legal authority to enter into this Agreement, and the institutional, managerial and financial capability to ensure proper planning, management, and completion of the project.

14. This Agreement may be executed in counterparts. The Effective Date of this Agreement is the date of the last (chronologically) signature.

15. Enbridge's obligations under this Agreement shall terminate when Enbridge has made all the payments required under this Agreement and completed all the activities it was required to perform under this Agreement, for a period not to exceed ten years period (estimated end date September 30, 2019) following the completion of Phase I and Phase II, as described in the Work Plan..

16. The Forest Service's obligations under this Agreement shall terminate when it has completed all the activities it was required to perform under this Agreement, not to exceed ten years period (estimated end date September 30, 2019) following the completion of Phase I and Phase II, as described in the Work Plan.

17. The Forest Service's statutory authority to enter into this agreement is Cooperative Funds and Deposits Act of December 12, 1975, P.L. 94-148, as further authorized by the Consolidated Appropriations Act 2008, P.L. 110-161 and the Cooperative Funds Act of June 30, 1914 (16 U.S.C. 498 as amended by P.L. 104-127).

18. By signature below, the Parties certify that the individuals listed in this Agreement as representatives of the Parties are authorized to act in their representative areas for matters related to this Agreement.

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07-PA-11090320-023

For the U.S. Forest Service:

[redacted]

Robert M. Harper, Forest Supervisor
Chippewa National Forest

2.7.08
Date

The authority and format of this instrument has been reviewed and approved for signature.

Brenda K. Jarenzl 2/7/08
Agreements Coordinator

For Enbridge Energy, Limited Partnership:

[redacted]

2/7/08
Date

Robert Steede
Enbridge Energy, Limited Partnership
By Enbridge Pipelines (Lakehead) L.L.C., its General Partner

For the U.S. Fish and Wildlife Service:

[redacted]

Robyn Thorson, Authorized Official for DOI
Regional Director
U. S. Fish and Wildlife Service

2.19.2008
Date

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07-PA-11090320-023

RECEIVED FEB 14 2008

For the Leech Lake Band of Ojibwe:

RECEIVED FEB 14 2008

[redacted]

Rich Robinson
Leech Lake Band of Ojibwe

2/7/08
Date

For the Minnesota Department of Natural Resources:

Mark Holsten, Commissioner
Minnesota Department of Natural Resources

2-29-08
Date

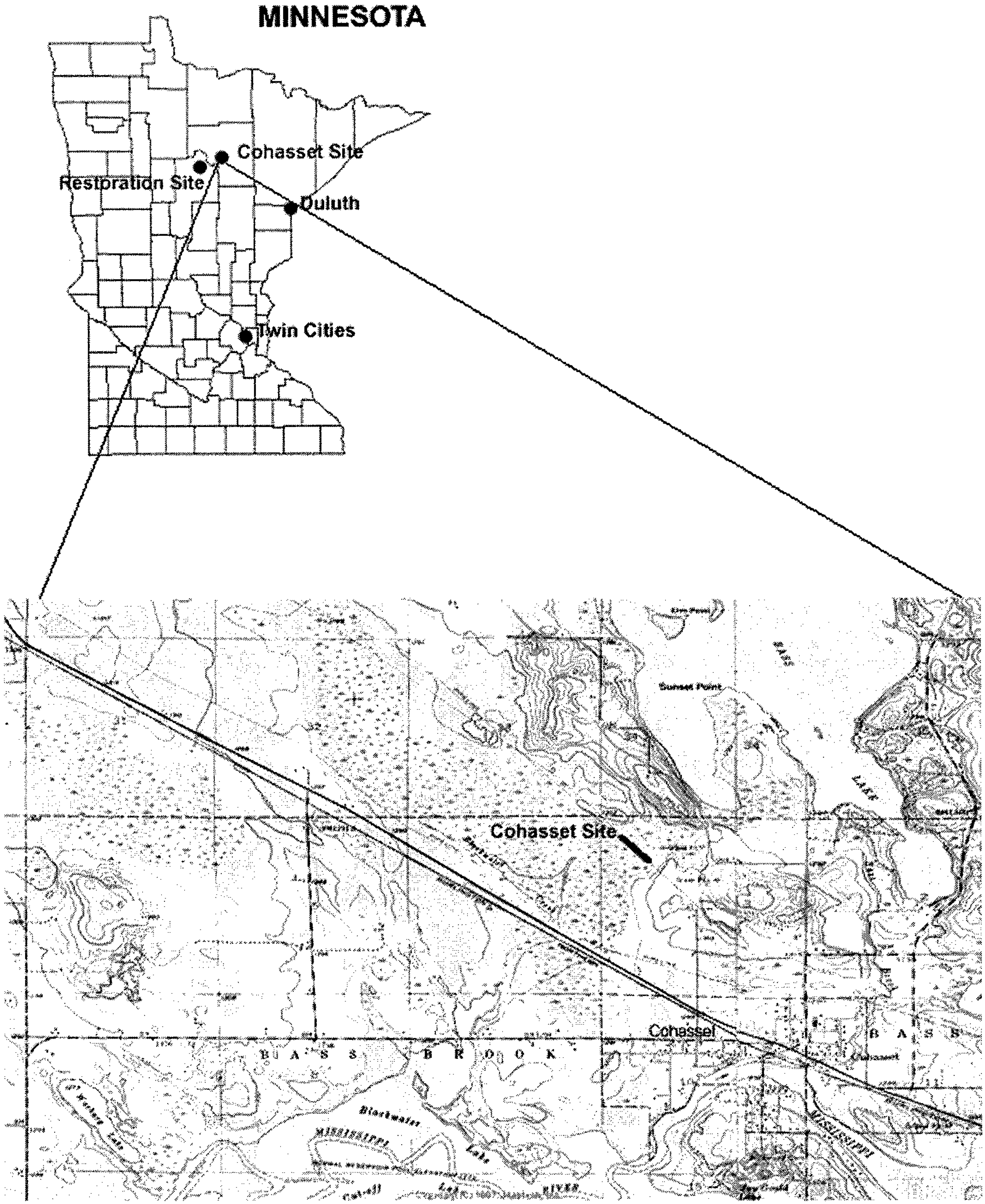
For the Minnesota Pollution Control Agency:

[redacted]

Brad Moore, Commissioner
Minnesota Pollution Control Agency

3/2/08
Date

APPENDIX D
Map


MINNESOTA
Cohasset Site
Restoration Site
Duluth
Twin Cities
Cohasset Site
Cohasset
B A S S B R O O K
B A S S

APPENDIX E
Restoration Projects - - Time Schedule

•APPENDIX E

Restoration Projects - - Time Schedule

The following schedule provides implementation time frames relative to the starting date for each project.

Habitat Restoration Project

Phase One

• Target Implementation Dates: March – June 2008. Phase One Work will commence no later than June 1, 2008.

• If implementation of the habitat restoration project cannot occur during the above timeframe then the next targeted timeframe is before freeze-up September – November 2008.

Phase Two

• Planting will occur after completion of Phase One during the subsequent growing season. For example, if road removal occurs during the March – June 2008 time frame then Phase Two (planting) will occur the following Spring 2009. If road removal occurs during the September - November 2008 time frame then planting will also occur Spring 2009.

Phase Three

• Monitoring will be conducted after the completion of Phases One and Two over a period of 10 years after completion of Phase Two. The Forest Service (per the Restoration Project Implementation and Monitoring Agreement between Natural Resource Trustees, Enbridge, and the USDA Forest Service for Forest Road 3725 Restoration Project) will submit a monitoring report to Enbridge and the Lead Administrative Trustee (FWS) by August 1 of years 1, 2, 3, 4, 6, 8, 10 after the completion of Phase Two. For example, if Phase Two planting is completed Spring 2009, the First monitoring report will be due August 1, 2010.

Phase Three of the Restoration Project will be completed by September 30, 2019

Diesel Engine Retrofit Project

Within 30 days of Effective Date –Enbridge will contact Donaldson Company with Tribal contact information.

Within 30 days of Effective Date - Enbridge will contact the Tribal representative to request school bus information.

Diesel Engine Retrofit Project will be completed during 2008.